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Veröffentlichungsversion / Published Version
Zeitschriftenartikel / journal article

# Robert Fogel: Spiritual Son of Simon Kuznets and Master in Cliometrics

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**Abstract**: *»Robert Fogel: Spiritueller Sohn von Simon Kuznets und Meister der Kliometrie«*. This paper is devoted to Robert Fogel, the spiritual and/or intellectual son of Simon Kuznets. Master in cliometrics, he is the winner (with Douglass North) of the 1993 Nobel Memorial Prize in economics for having renewed research in economic history by applying economic theory and quantitative methods in order to explain economic and institutional change.

**Keywords**: Robert Fogel, Simon Kuznets, cliometrics.

> *Kuznets, who supervised my doctoral dissertation, was by far the most influential figure in my graduate training. Soft-spoken and of moderate stature, Kuznets was a towering intellect, and one did not have to be in his class very long to discover his erudition not only in economics, but also in history, demography, statistics, and the natural sciences. His course in economic growth covered the history of technological change during the modern era, demography and population theory, and the use of national income aggregates for the comparative study of economic growth and of the size distribution of income. It was not until some years later that I realized the course presented the substance of the research that later appeared in a series of 10 supplements to Economic Development and Cultural Change and in his 1966 monograph, Modern Economic Growth: Rate, Structure, and Spread – the work for which he was awarded the third Nobel Memorial Prize in economics. Kuznets's course was valuable not only for the substance of the material but also for the way that he used the material to transmit the art of measurement. He repeatedly demonstrated that the central statistical problem in economics was not random error but systematic biases in the data, and he discussed a number of powerful approaches to coping with that problem, particularly emphasizing the role of sensitivity analysis. (Robert Fogel, 1996).*

Robert Fogel is the spiritual and/or intellectual son of Simon Kuznets. Master in cliometrics, he is the winner (with Douglass North) of the 1993 Nobel Memorial Prize in economics "*for having renewed research in economic history*

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*by applying economic theory and quantitative methods in order to explain economic and institutional change*".

Fogel's seminal research work is a true revolution in the history of economics, even a complete break with the tradition. It has re-established a role for history in economics, by expressing it in the language of the discipline. Today one can even say that it is an expanding domain in economics, contributing to new debates or challenging old conventional wisdom. The use of econometric techniques and economic theory has not solely contributed to rejuvenating economic history debates and made quantitative arguments unavoidable; it has also contributed to the slow emergence of a new historical awareness among economists.

Cliometrics does not concern economic history in the limited, technical meaning of the term. It modifies historical research in general. It represents the quantitative projection of social sciences in the past.

The question of knowing whether slavery benefited or not the United States before the Civil War or whether the railways had substantial effects on the development of the US economy[1] is as important for general history as for economic history and will necessarily weigh on any interpretation or appraisal (anthropological, legal, political, sociological, psychological, etc.) of the course of American history.

Furthermore, cliometrics challenges one of the basic hypotheses of the idealistic school that consists of holding that history can never provide scientific proof as it is never possible to subject to experiment historical events that are by definition unique. It replies that on the contrary, it is possible – at least in suitable cases – to construct a fictitious (counterfactual) situation that can be used to measure the deviation between what actually happened and what could have happened under different circumstances. This methodological principle, that is to say the measurement of the influence of a factor on a development by using the difference between the development actually observed and the hypothetical development that would have been observed if the factor in question had not existed, is perhaps, along with historical time series econometrics, the most important contribution of cliometrics for researchers in social science in general and historians in particular.

Fogel defined the methodological features of cliometrics. He considers it fundamental that cliometrics should lay stress on measurements and that it

[1] Fogel called into question the commonly accepted interpretation of economic growth in the United States at the end of the nineteenth century. It had previously been claimed that the railways had been the determinant factor as they had opened up new territories and provided large scope for investment. Fogel contested this and developed a complex statistical model showing what the US economy would have been like in 1890 without the railways. He reached the conclusion that the national income would have been 5 percent less at the worst. Far from being indispensable, the railways were a secondary factor in the overall growth process in the US.

should recognise the existence of close links between measurement and theory. Indeed, unless it is accompanied by statistical and/or econometric processing and systematic quantitative analysis, measurement is just another form of narrative history. It is true that it replaces words by figures but it does not bring in any new factors. In contrast, cliometrics is innovative when it is used to attempt to formulate all the explanations of past economic development in terms of valid hypothetico-deductive models. In other words, the main characteristics of cliometrics is the use of these hypothetico-deductive models that call on the closest econometric techniques with the aim of establishing the interaction between variables in a given situation in mathematical form.

This generally consists of constructing a model – of general or partial equilibrium – that represents the various components of the economic evolution in question and showing the way in which they interact. Correlations and/or causalities can thus be established to measure the relative importance of each over a given period of time.

So far, hypothetico-deductive models have mainly been used to determine the effects of innovations, institutions and industrial processes on growth and economic development. As there are no records saying what would have happened if the innovations in question had not occurred or if the factors involved had not been present, this can only be found out by drawing up a hypothetical model used for deducing a fictitious situation, that it to say the situation as it would have been in the absence of the circumstances in question. It is true that the use of propositions contrasting with the facts is not new in itself. Such propositions are implicitly involved in a whole series of judgements, some economic and others not. What would have happened, for example, if there had been opposition to Hitler's remilitarisation in 1936?

The use of propositions contrary to the facts has not escaped criticism. Many scientists still consider today that the use of hypotheses that cannot be verified does not produce history but quasi-history. Furthermore, the results obtained by the most elaborate cliometric applications have been less decisive than many cliometrics specialists had hoped for. Critics are doubtless right to conclude that economic analysis in itself, with the use of econometric tools, is unable to provide causal explanations for the process and structure of change and development. There appear to be non-systematic breaks in normal economic life (wars, bad harvests, collective hysteria during stock market crashes, etc.) that require overall analysis but that are too frequently considered as extrinsic and abandoned to the benefit of an *a priori* formulation of theoretical suppositions.

Nevertheless, in spite of the disappointments resulting from some of its more extreme demonstrations, cliometrics also has its successes, together with continuous theoretical progress. The risk would obviously be that of allowing economic theory to neglect a whole body of empirical documentation that can enrich our knowledge of the reality of economic life. Conversely, theory can help to bring out certain constants and only mastery of theory makes it possible

to distinguish between the regular and the irregular, between the foreseeable and the unforeseeable.

At the present stage, the main achievement of cliometrics has been to slowly but surely establish, in the Kuznets-Fogel tradition, a solid set of economic analyses of historical evolution by means of measurement and theory. Nothing can now replace rigorous statistical and econometric analysis based on systematically ordered data. Impressionistic judgements supported by doubtful figures and fallacious methods and whose inadequacies are padded by subjective impressions have now lost all credit. Economic history in particular should cease to be a "simple" story illustrating with facts the material life during different periods and become a systematic attempt to provide answers to specific questions. The ambition should be to move from the *verstehen* or understanding side to the *erklären* or explaining side (or mixing both approaches).

By extension, the more the quest for facts is dominated by the conception of the problems, the more research work will address what forms the true function of economic history in the social sciences. This change of intellectual orientation, of cliometric reformulation can thus reach other human and social sciences disciplines (law, sociology, political science, geography, etc.) and engender similar changes.

Indeed, the most vigorous new trend in the social sciences is without a doubt the preoccupation with quantitative and theoretical aspects. It is the feature that best distinguishes the concepts of our generation from those current from after World War 2 until the 1990s. Everybody is ready to agree to this – even the most literary of our colleagues. There is nothing surprising about this interest. One of the characteristic features of today's younger generation is most certainly that its intellectual training is much more deeply marked by science and the scientific spirit than that of the generations that preceded us. It is therefore not surprising that young scientists should have lost patience with regard to the tentative approach of traditional historiography and have sought to build their work on foundations that are less "artisanal".

Human and social sciences are thus becoming much more elaborate in the technical respect and it is difficult to believe that a reversal of the trend might occur. However, it is also clear that a significant proportion of human and social scientists have not yet accepted the new trends aimed at using more elaborate methodology and clear concepts conforming to new norms in order to develop, in a *fogelian* tradition, a truly scientific human and social science.

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